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## PAPERS

IN

## CHEMISTRY.

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### DRY ROT IN SHIP TIMBER.

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*The GOLD MEDAL of the Society was this Session presented to AMBROSE BOWDEN, esq., Navy Office, for a method of preventing and curing the DRY ROT IN SHIP TIMBER. The following communications were received from him on the subject.*

Navy Office.  
April 9, 1818.

SIR ;

**I**N June, 1815, I published a treatise on Dry Rot, a copy of which I presented to the Society for the Encouragement of Arts, &c. I am now happy to inform the Society that several of the measures I then recommended have been since adopted by government, particularly that of sinking ships in sea water, which has been attended with success equal to my most sanguine expectations.

A ship of 451 tons (the *Eden*) was sunk in November, 1816, and raised in March 1817, and on her being taken into Dock and opened last month, there was not the least

appearance of recent fungus, although many of her timbers had been destroyed by this vegetation, previously to her being sunk ; and what old fungus was found on the timbers had been completely deprived of vegetable life. It is with infinite satisfaction I reflect on having discovered a simple, easy, cheap, and effectual remedy for a decay which has consumed the navy for many years past, at an expense of many millions sterling to the public. I now beg to appeal to the liberality of the Society for that consideration which so important a discovery deserves. I shall be happy to wait on the Society with documents sufficiently attested to prove the truth of these representations.

I am, Sir,

*A. Aikin, Esq.*

&c. &c. &c.

*Secretary, &c. &c.*

**A. BOWDEN.**

SIR ;

Navy Office,  
April 12, 1818.

I OMITTED to state in my letter, as a confirmation of the efficacy of sinking ships to cure the Dry Rot, that many pieces of timber, which had lain for some years in the yard at Milford, had been much decayed by the growth of the fungus ; but after they were immerged in the sea, the vegetation was entirely destroyed, and those timbers which were not too rotten, are now used for building ships without the least apprehension. In consequence of these satisfactory experiments, an order has been issued by the Lords Commissioners of the Admiralty, directing *all the timbers* and planks to be submerged after they are cut to the proper shape, and previously to their being used for building a ship. They have also ordered the Mersey (a ship built at the same time as the Eden, of the same tonnage, and nearly in the same state of decay) to be repaired immediately, and sunk when she is completed, in order that the

*new timber* used in repairing her may have the benefit of submersion as well as the old. I beg also to state to the Society that I have learnt, since the publication of my treatise, that accident has furnished us with two other instances of the good effects of sinking ships, in the San Fiorenzo frigate which was sunk off the French coast about 18 years ago, and the Resistance frigate, which was also sunk in attempting to heave her down in the Mediterranean about 8 or 10 years since: the latter ship is now under repair at Plymouth, and is perfectly free of fungus, which excited considerable surprise and inquiry; and the former is in the same favourable state. The fact, therefore, appears to be established, as completely as any fact can be proved, the Eden having been raised one year, the Resistance about ten years, and the San Fiorenzo about 18 years. Nothing more strongly shows the opinion entertained by the Lords of the Admiralty than the orders they have issued, and the consideration that they never would have given such orders (so contrary to former prejudices) on any other than an unquestionable foundation.

I am, Sir,

*A. Aikin, Esq.*

&c. &c. &c.

*Secretary, &c. &c.*

*A. BOWDEN.*

Besides the foregoing letters, copies were communicated to the Society of the following official papers confirming the statements in Mr. Bowden's letter, viz:

1. A recommendation from Mr. Commissioner Seppings, that the Eden and Mersey sloops of war, both infested with fungus, being new ships, built at the same place, and launched in the same year, should be selected for a comparative experiment to ascertain the effect of submersion in sea water. The Eden to be submerged, the Mersey not to be submerged.

2. Warrant to the officers of Plymouth yard to sink the *Eden*, November 16, 1816.
3. Survey of the *Eden* before submersion, November 16, 1816.
4. Report on the state of the *Eden* and of the *Mersey*, after the former ship had been submerged, September 8, 1817.
5. Report on the state of the *Eden*, March 7, 1817.
6. Letter from the Navy Board to the Admiralty on the state of the *Eden*, March 11, 1818.
7. Order from the Admiralty (7th April, 1818), to repair the *Mersey*, and afterwards to sink her, that the new timber may have the benefit of the immersion in sea water.